

An aerial photograph of the Chesapeake Bay watershed, showing the intricate network of rivers and streams flowing into the bay. The land is a mix of green and brown, indicating different types of vegetation and land use. The water in the bay is a deep blue. The text is overlaid in a bold, yellow font.

The Chesapeake Bay TMDL

(Plotting the path to restored Bay water quality)

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The Chesapeake Bay Watershed

Land Cover

Chesapeake Bay Watershed



Chesapeake Bay Program
A Watershed Partnership

Land Cover Classes

- Low/Medium intensity developed
- High intensity developed
- Wetlands
- Forest
- Agriculture
- Barren
- Chesapeake Bay Watershed
- Chesapeake Bay
- State Boundary



Data Source: Chesapeake Bay Program, National
Land Cover Data 2001

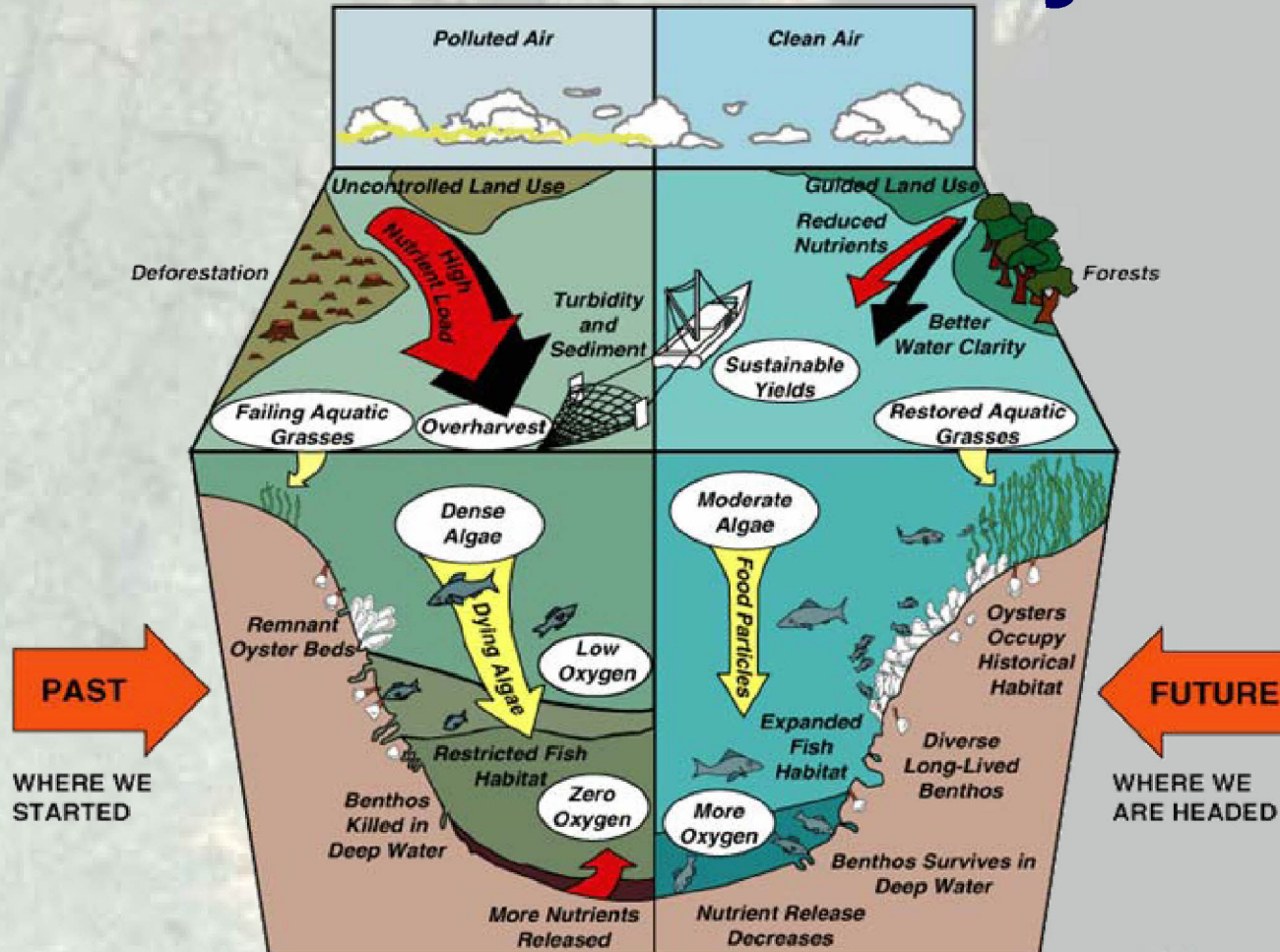
For more information, visit www.chesapeakebay.net



Created by EA, 1/23/08

UTM Zone 18N, NAD 83

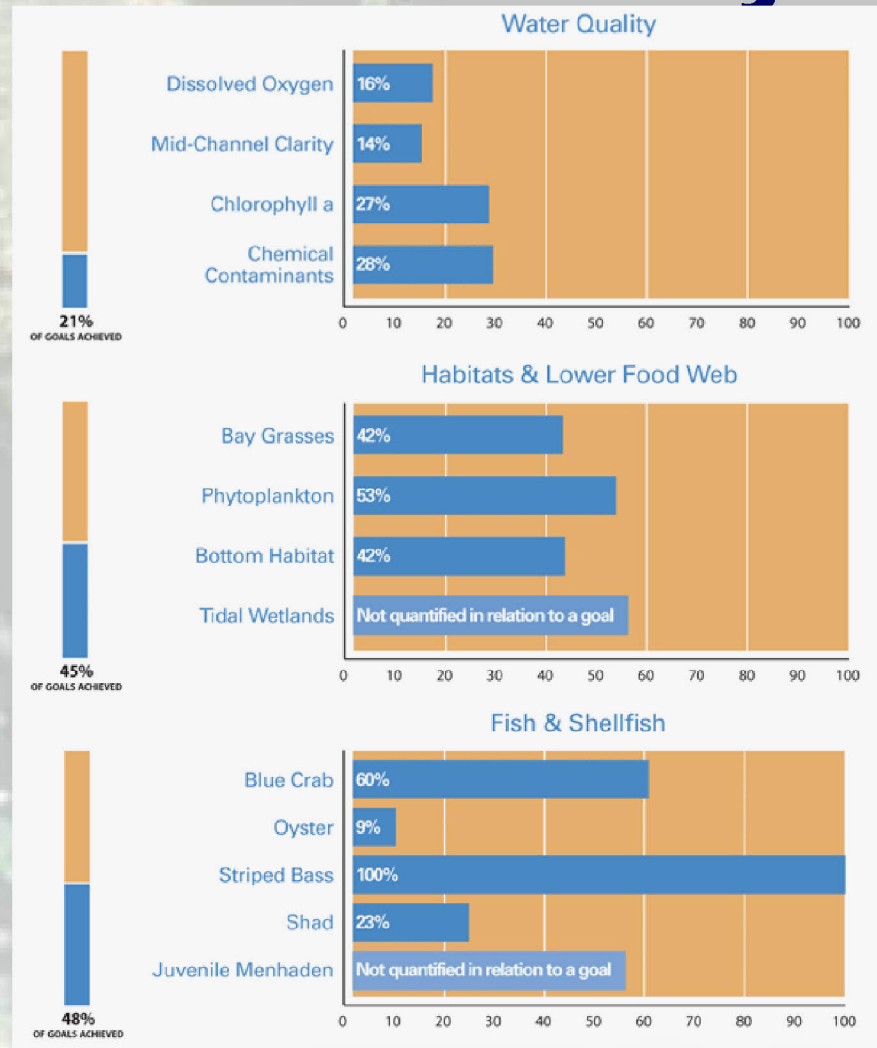
Portrait of an Ecosystem





2008 Bay Health Summary

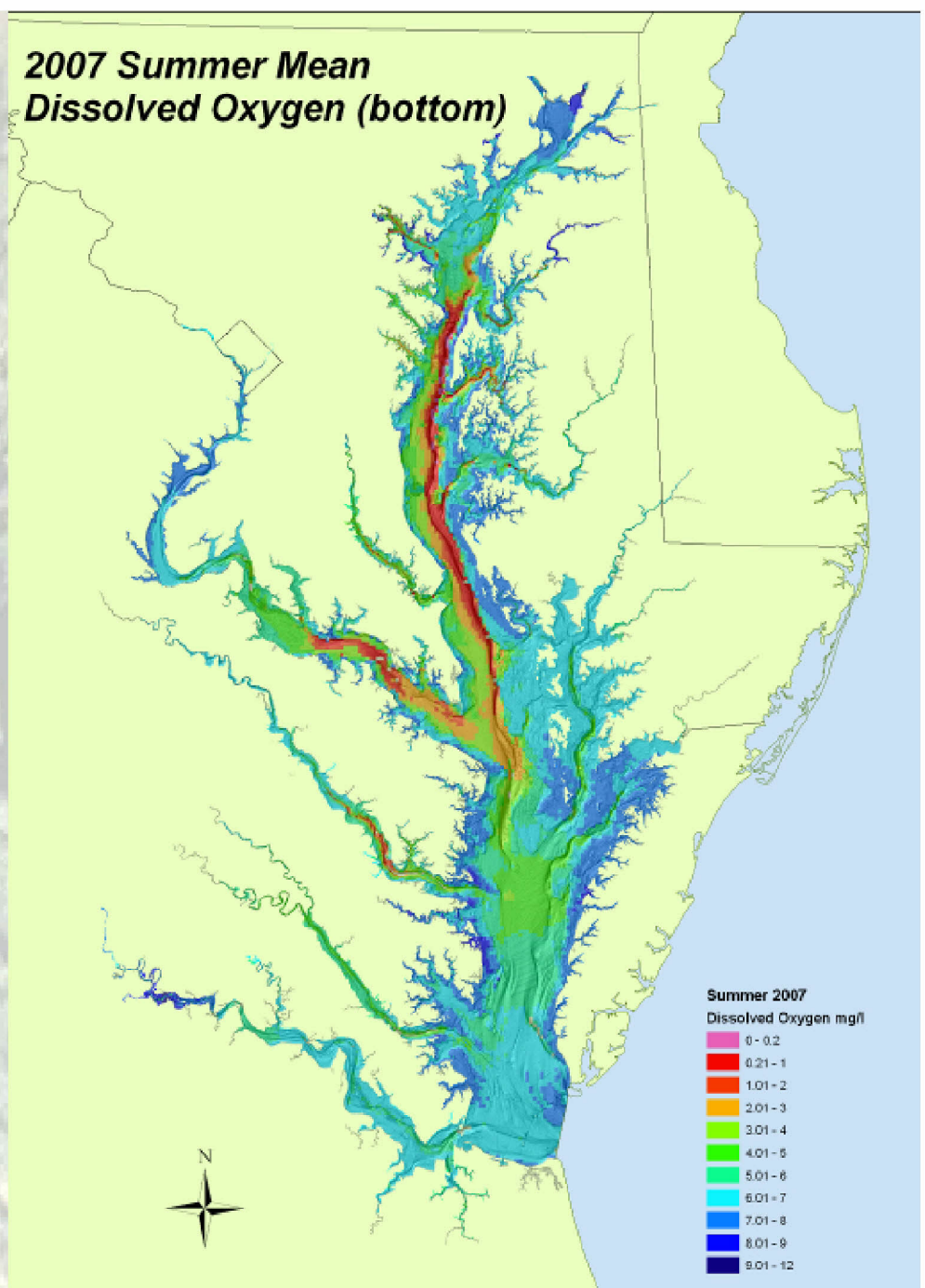
- Most of the Bay's waters are degraded—less than one-third of Bay water quality goals are being met.
- The Bay's critical habitats and food webs are currently at about a third of desired levels.
- Many of the Bay's fish and shellfish populations are below historic levels.



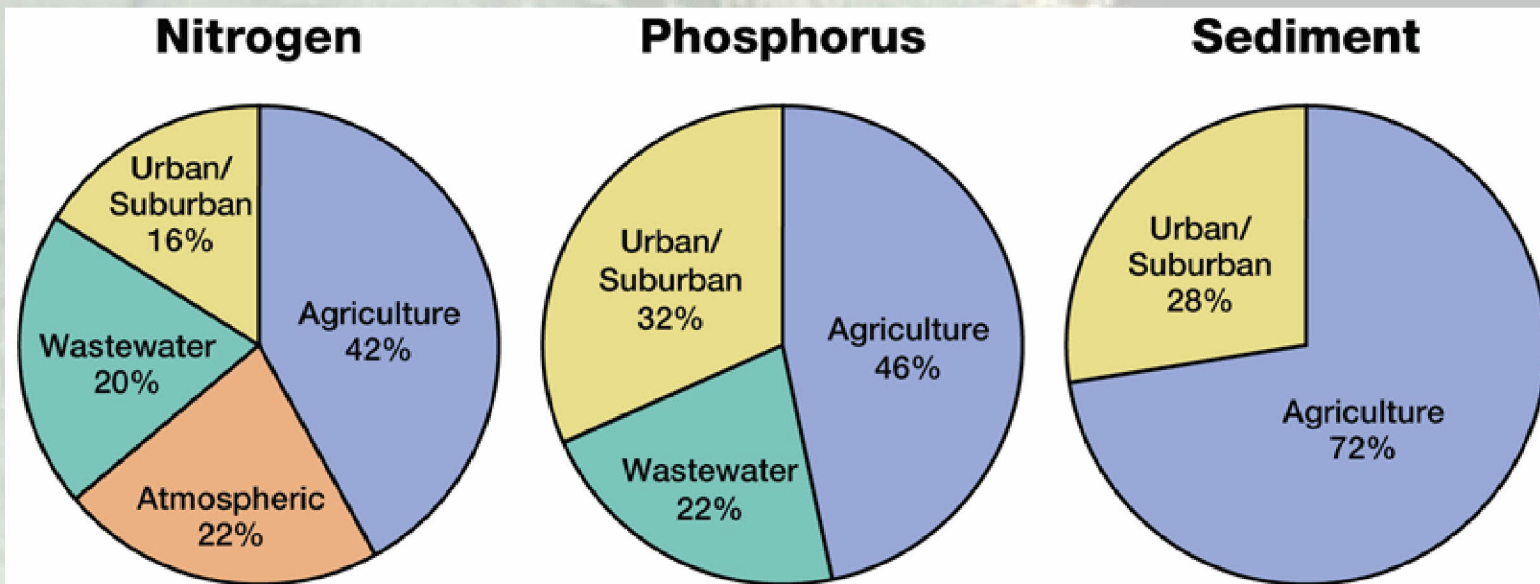
Source: CBP 2008

**Extensive low to
no summer
dissolved oxygen
conditions
persist
throughout the
Chesapeake Bay
and its Tidal
Tributaries**

Source: www.chesapeakebay.net/data



Pollutant Sources to the Bay



Wastewater loads based on measured discharges; the rest are based on an average-hydrology year.
Does not include loads from direct deposition to tidal waters, tidal shoreline erosion or the ocean.
Data and Methods: www.chesapeakebay.net/status_reducingpollution.aspx

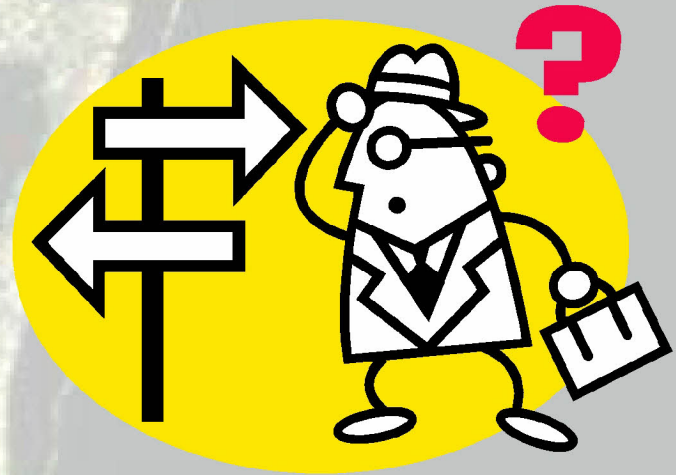
What is a Total Maximum Daily Load (TMDL)?

- **For pollutants impairing our waters**
- **Loading to stream necessary to meet water quality standards**
- **Split into point sources and non-point sources**

In other words...a pollution budget

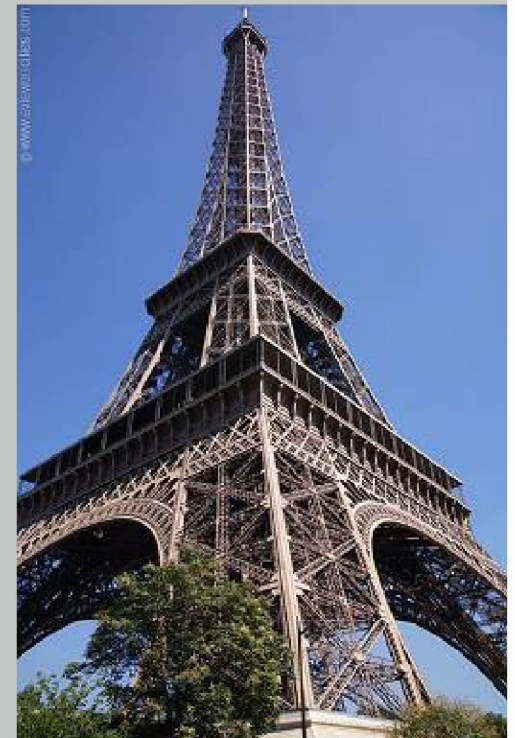
Myth

- The Bay TMDL will be another paper exercise resulting in limited implementation of nutrient and sediment controls.



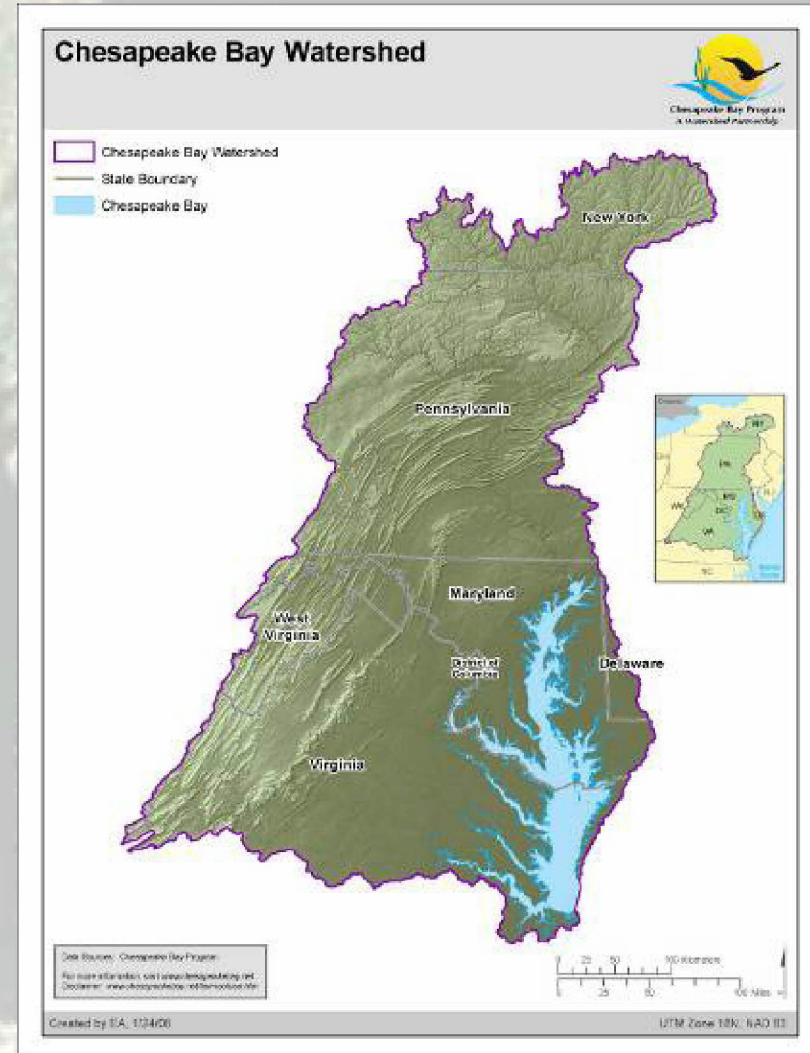
Fact

- **The Chesapeake Bay TMDL will be unlike any other, being part of a comprehensive framework for implementation.**



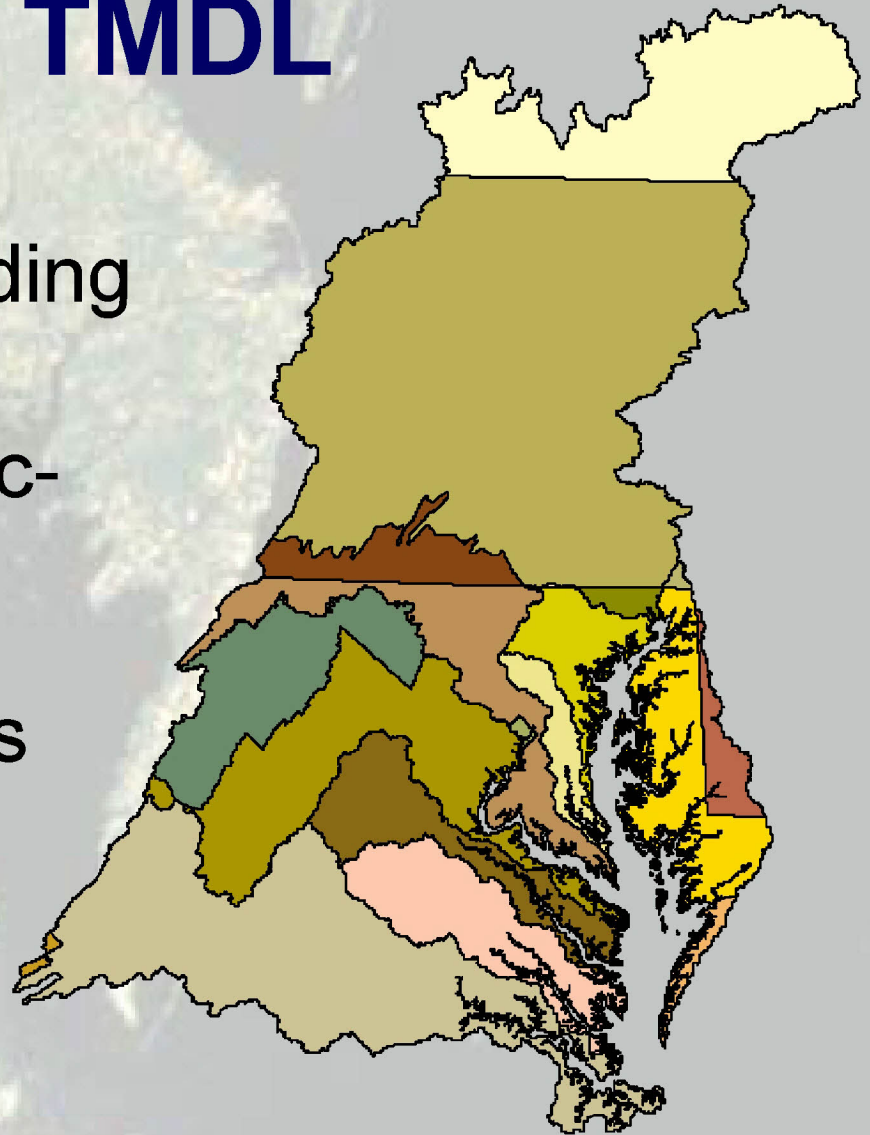
Chesapeake Bay TMDL: The Basics

- Will establish a 'pollution budget' for N, P, and S
- Will establish load caps for all six Bay states and the District of Columbia
- Planned for completion by December 2010



Chesapeake Bay TMDL

- EPA/states set the major river basin loading caps
- States set geographic- and source-specific loading caps in their Implementation Plans
- EPA establishes the TMDL

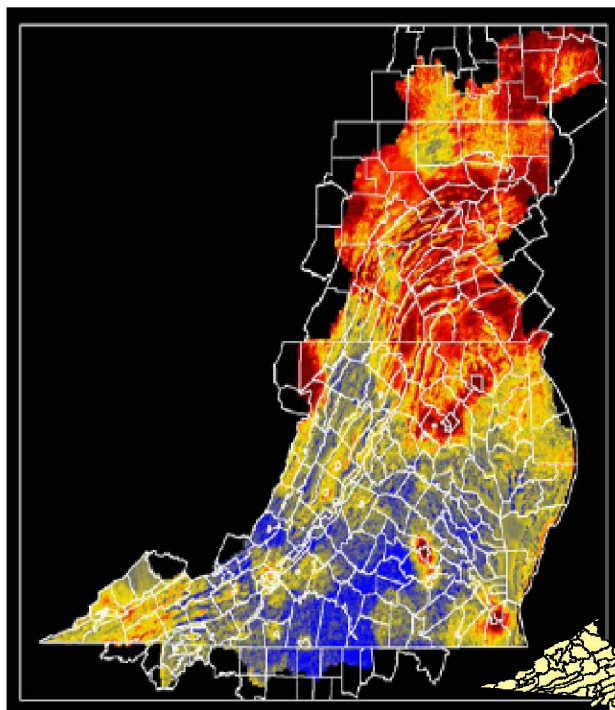


Bay TMDL Schedule

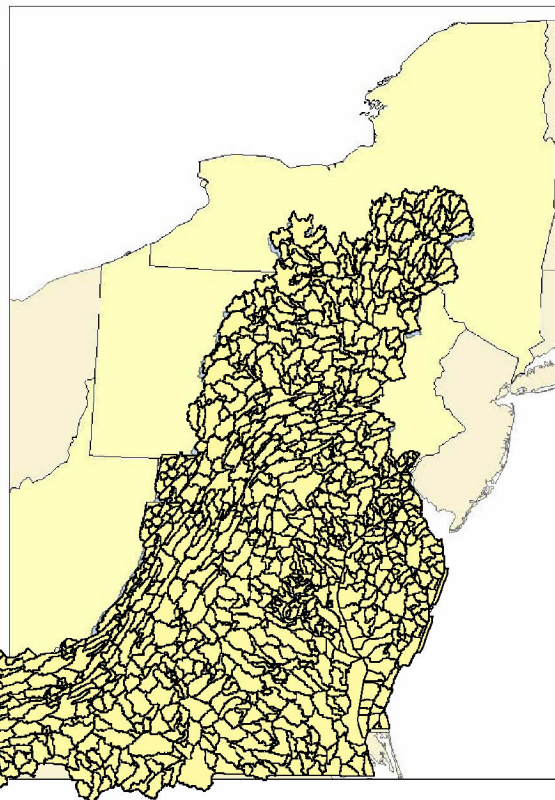
- **Basin-jurisdiction target loads: October 2009**
- **Bay TMDL public meetings: Fall 2009**
- **Draft Bay TMDL: June 2010**
- **Public comment period/public meetings: summer 2010**
- **Final Bay TMDL established by EPA: December 2010**

The Science....

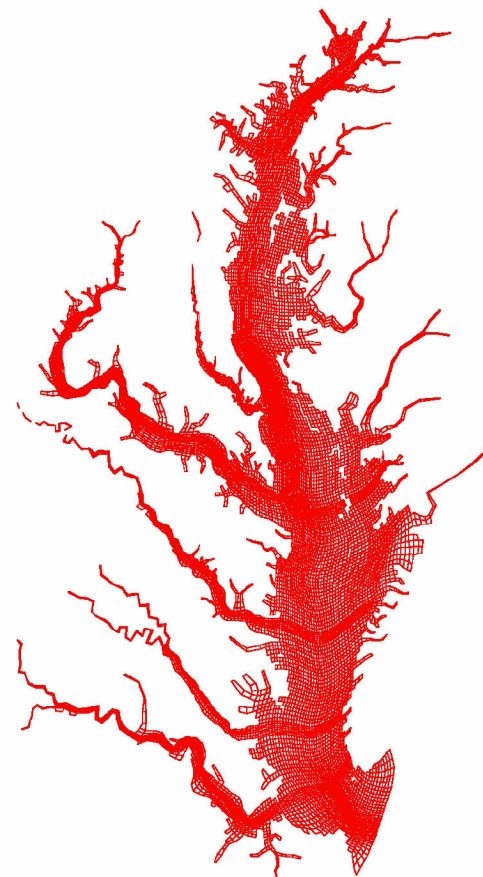
Next Generation of the Partnership's Bay Models



Airshed Model

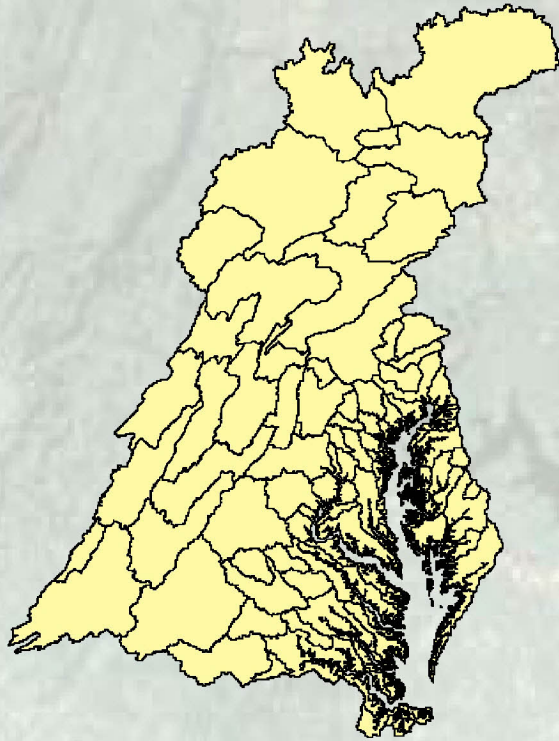


Watershed Model

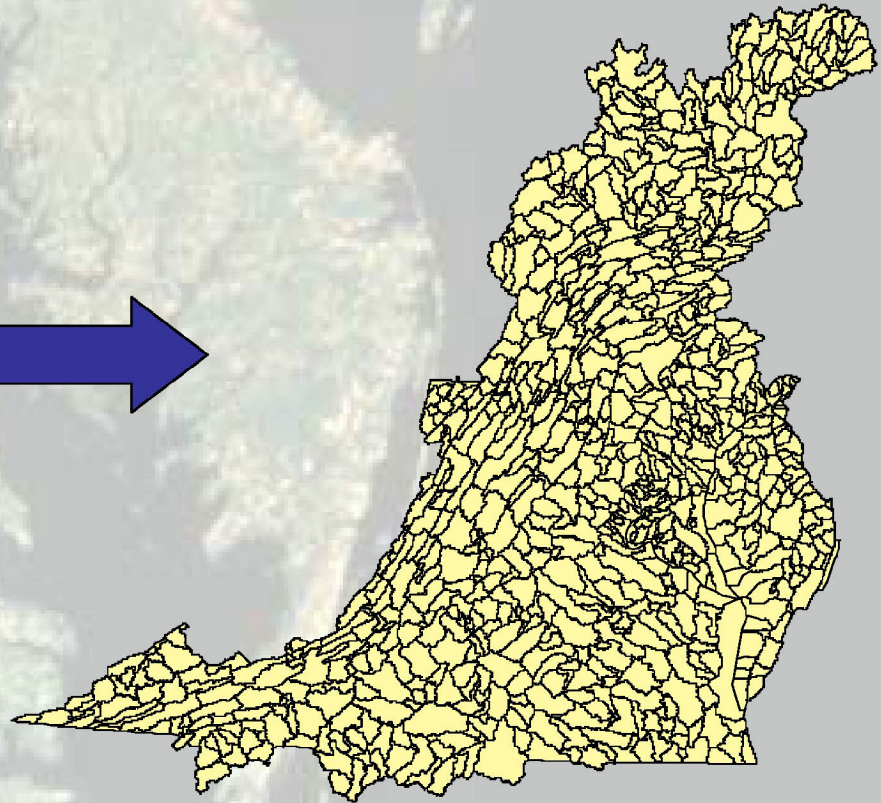
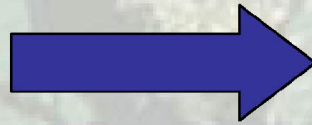


Estuary Model

...allows local assessments



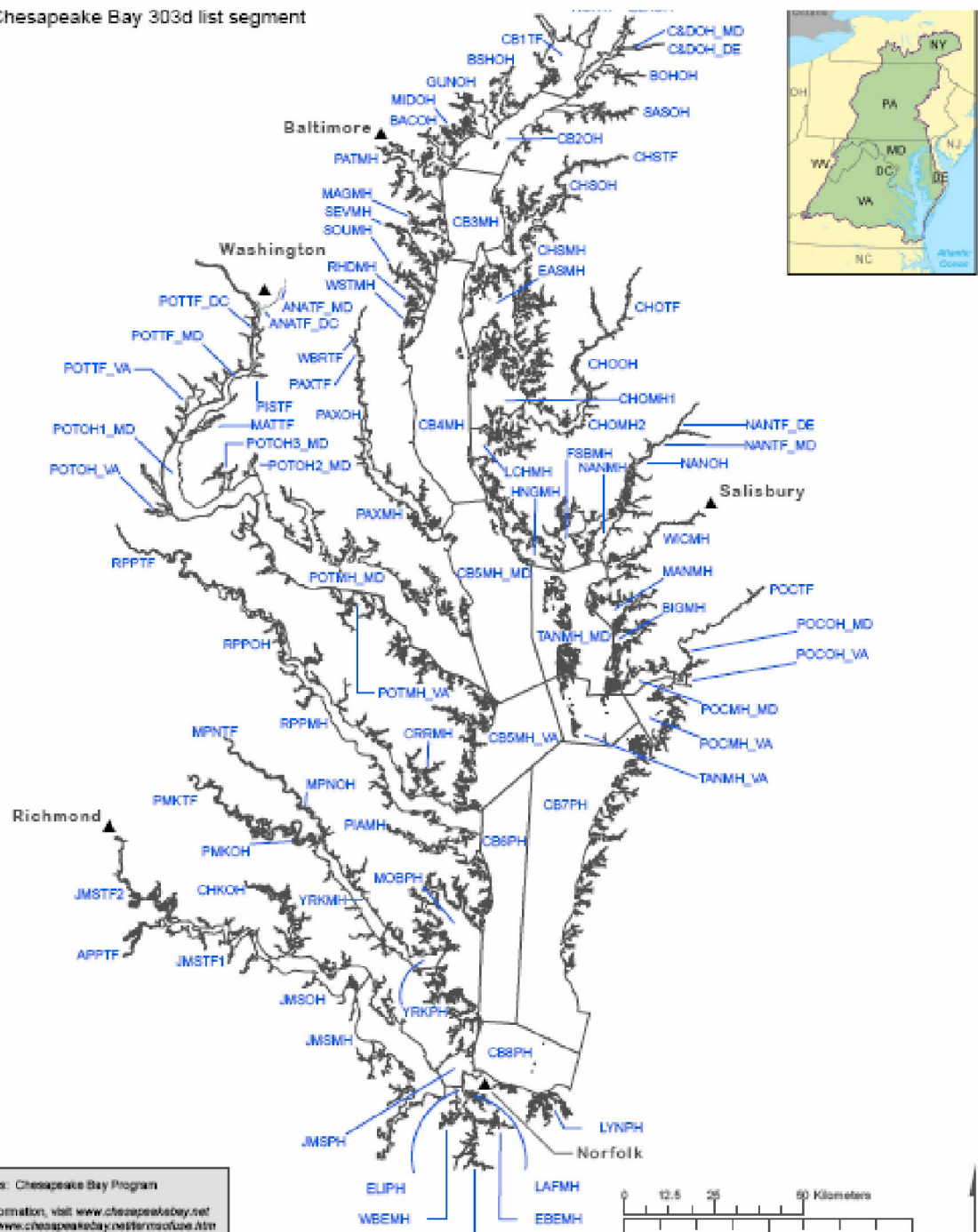
Phase 4 Watershed
Model



Phase 5 Watershed
Model

Impaired Segments

- Clean Water Act requires a TMDL for each impaired waterbody
- MD, VA, DE and DC have listed Bay tidal waters on the basis of designated use by tidal Bay segments (92 total)



Starting point from the Bay watershed model...

County Segment

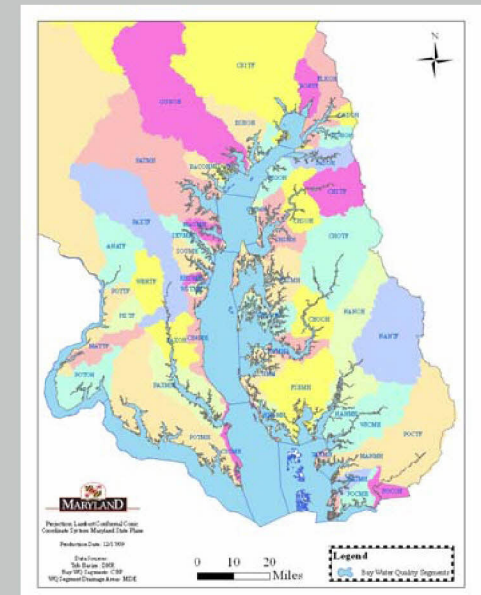
Major Tributary Basin

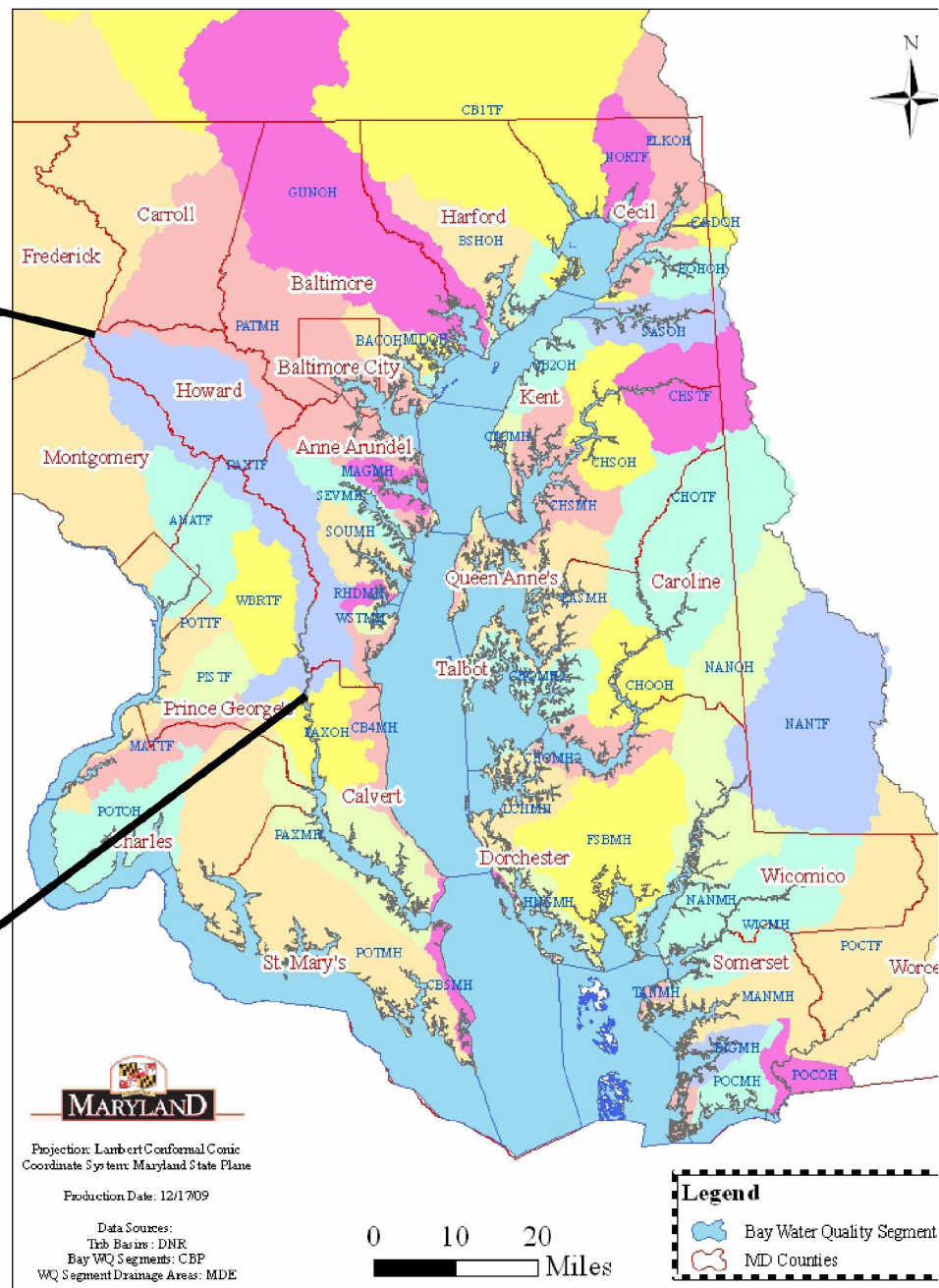
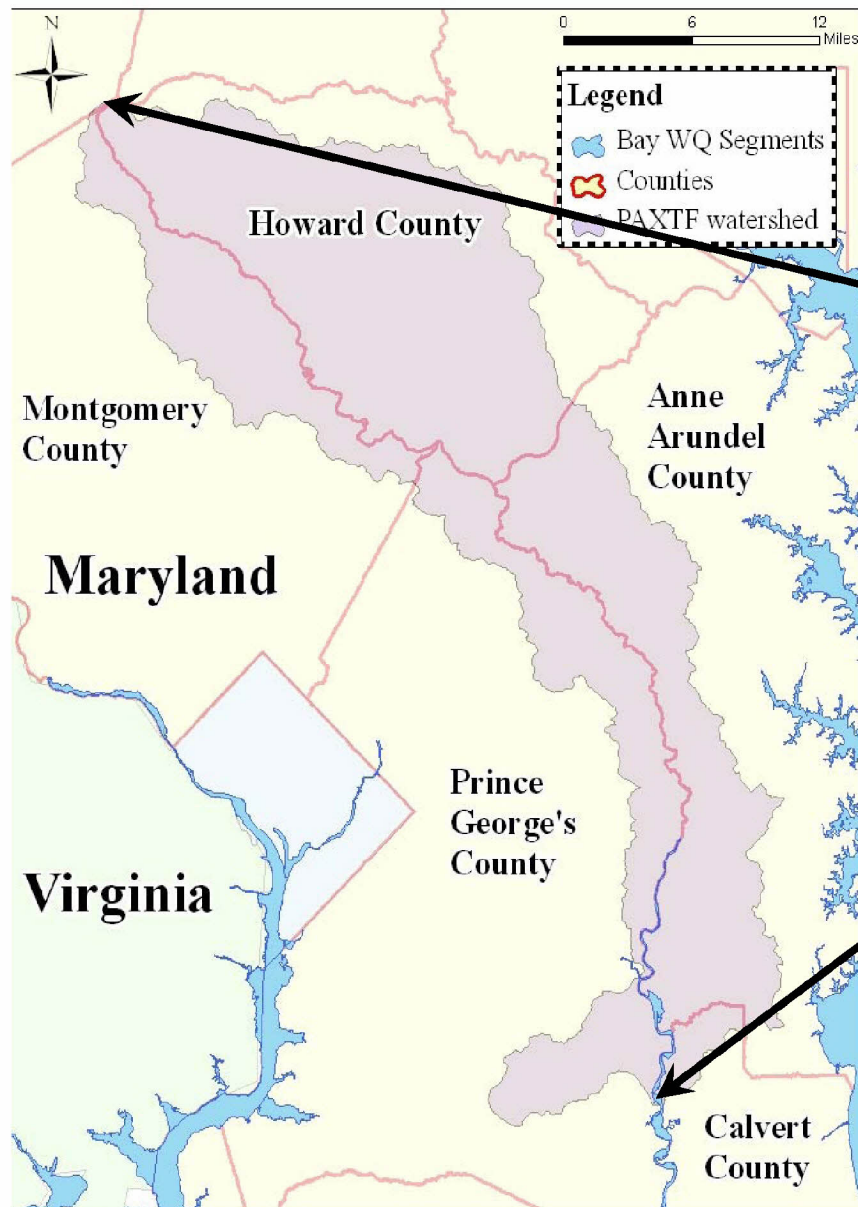
Impaired Tidal Segmentshed

State

County

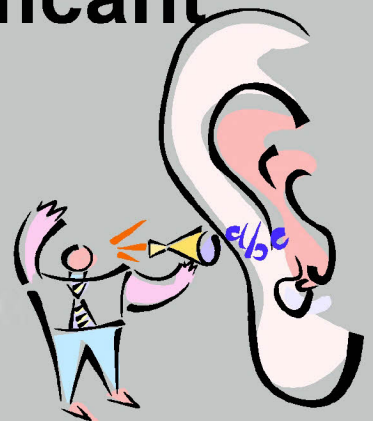
...leading to various aggregations of county segments.





What the new science and new models are telling us

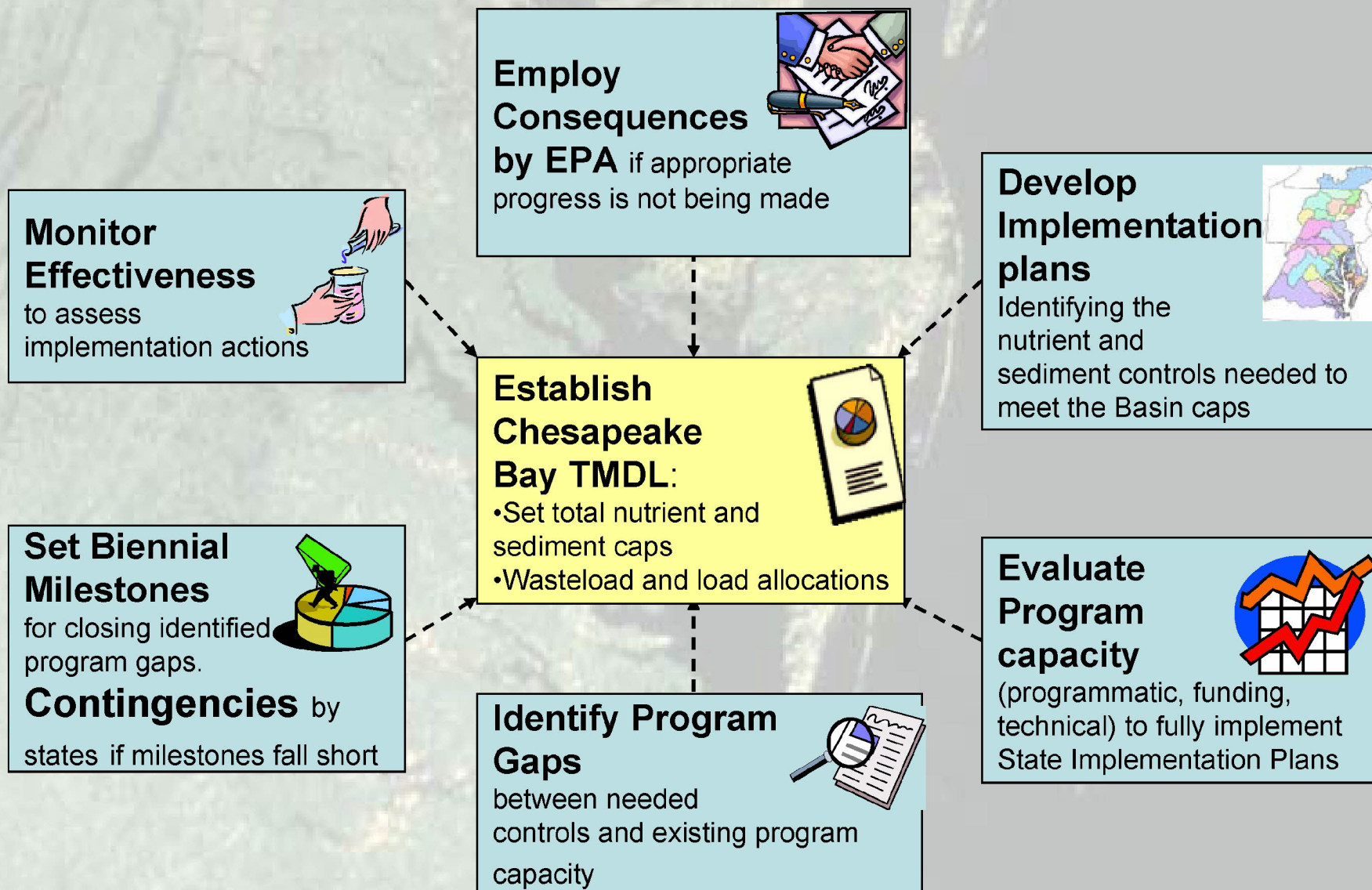
- **Cleaning up the Bay results in local water quality improvements**
- **Full implementation of the jurisdictions' current tributary strategies will not be enough to restore Bay water quality**
- **All source sectors will need significant reductions**
 - **Local involvement in planning and implementation is critical**



What about implementation?



The Bay TMDL Implementation Framework





Further Information

- **Chesapeake Bay TMDL website**
<http://www.epa.gov/chesapeakebaytmdl>
- **EPA Region 3 Contacts**
 - **Water Protection Division**
 - Bob Koroncai (koroncai.robert@epa.gov)
 - Jennifer Sincock (sincock.jennifer@epa.gov)
 - **Chesapeake Bay Program Office**
 - Rich Batiuk (batiuk.richard@epa.gov)